

08/07/99  
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09/370611  
08/07/99

Box Patent Application

Assistant Commissioner for Patents

Washington, District of Columbia 20231

Sir:

Please file the following enclosed patent application papers.

Applicant #1, Name: Calvin Walker

Applicant #2, Name: \_\_\_\_\_

Title: Location Specific Alarm Relay (L.S.A.R.)

☒ Specification, Claims, and Abstract: Nr. of Sheets 11

☒ Declaration: Date Signed: 8/7/99

☒ Drawing(s): Nr. of Sheets Enc.: Formal: \_\_\_\_\_ Informal: 8

☒ Small Entity Declaration of Inventor(s) ☐ SED of Non-Inventor / Assignee / Licensee

☐ Assignment enclosed with cover sheet and recordal fee; please record and return

☒ Check for \$ 380.00 for:

☒ \$ \$380.00 for filing fee (not more than three independent claims and twenty total claims are presented)

☐ \$ \_\_\_\_\_ additional if Assignment is enclosed for recordal

☐ Disclosure Document Program reference letter.

☒ Pursuant to 35 U.S.C. §119(e)(i), applicant(s) claim priority of Provisional Patent Application Ser. Nr. 60/118,978  
filed 02/08/99

☒ Return Receipt Postcard Addressed to Applicant #1.

☒ **Request Under MPEP § 707.07(j):** The undersigned, a pro se applicant, respectfully requests that if the Examiner finds patentable subject matter disclosed in this application, but feels that Applicant's present claims are not entirely suitable, the Examiner draft one or more allowable claims for applicant.

Very respectfully,

Calvin Walker

Applicant #1 Signature

1840 Switzer

Address (Send Correspondence Here)

St. Louis MO 63147

Applicant #2 Signature

Address

Express Mail Label #

EJ925309092US

; Date of Deposit 199

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I hereby certify that this paper or fee is being deposited with the United States Postal Service using "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to "Box Patent Application, Assistant Commissioner for Patents, Washington, DC 20231"

Signed

Calvin Walker

Inventor

In the United States Patent and Trademark Office

First/Sole Applicant: CALVIN WALKER

Joint/Second Applicant: \_\_\_\_\_

Title: "LOCATION SPECIFIC ALARM RELAY (L.S.A.R)"

Small Entity Declaration—Independent Inventor(s)

As a below-named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35 United States Code, to the Patent and Trademark Office with regard to my above-identified invention described in the specification filed herewith. I have not assigned, granted, conveyed, or licensed—and am under no obligation under any contract or law to assign, grant, convey, or license—any rights in the invention to either (a) any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or (b) any concern which would not qualify as either (i) a small business concern under 37 CFR 1.9(d) or (ii) a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed—or am under an obligation under contract or law to assign, grant, convey, or license—any rights in the invention is listed below:

☒ There is no such person, concern, or organization.

☐ Any applicable person, concern, or organization is listed below.\*

Full Name: \_\_\_\_\_

Address: \_\_\_\_\_

I acknowledge a duty to file, in the above application for patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Calvin Walker  
Signature of Sole/First Inventor

CALVIN WALKER  
Print Name of Sole/First Inventor

8/7/99  
Date of Signature

\_\_\_\_\_  
Signature of Joint/Second Inventor

\_\_\_\_\_  
Print Name of Joint/Second Inventor

\_\_\_\_\_  
Date of Signature

\*Note: A separate Small Entity Statement is required from any listed entity.

PATENT Application for  
CALVIN WALKER  
for  
Location Specific Alarm Relay (L.S.A.R)

This Application claims the benefit  
of Provisional Patent Application

Ser # 60/118,978

filed: 02/08/99

Pat. Pend. EJ477645136US

Background - Field of Invention

This invention relates to home detection  
devices, such as Smoke, Carbon Monoxide,  
radon detectors.

This invention specifically relates to  
the encoding, transmission, receiving  
and Audio output of DATA.

Location and type of Alarm.

0937064-090799

## Background - Description of Prior Art

Hardware and electronic stores supply consumers with smoke/carbon monoxide/radon detector that output a high frequency alarm and/or a flashing strobe light in response to the detected problem.

Professional Alarm Installation provides for the hardwiring, of Alarm systems to central monitors.

where information such as type of Alarm, and zone are displayed.

## Background - Disadvantages of Prior Art

- (a) Hardware And electronic stores supply detectors - but they do not transmit Data.
- (b) They do not provide Alarm/Voice output.
- (c) They do not specify a location or type of Alarm.
- (d) detectors do not monitor each other.
- (e) They contain ~~no~~ memory.

## Professional Alarm Installation

- (f) Provides only a general Alarm monitored At a central monitor

## Objects and Advantages

Accordingly, Several objects and Advantages of my Invention are...

- (a) Less cost than professional installed systems
- (b) Can be installed easily, no wiring.
- (c) Usable in locations where handwiring is not possible or practical.
- (d) ALTERNATING Voice/High frequency Alarm Provides greater Attention Value with less stress potential.
- (e) Notification of type and location of Alarm provided at each Alarm station.

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further objects and advantages are,  
less panic due to voice output with  
immediate location information

Other systems although they may be  
heard give no location

A disoriented person may panic and  
run in to a fire instead of away.

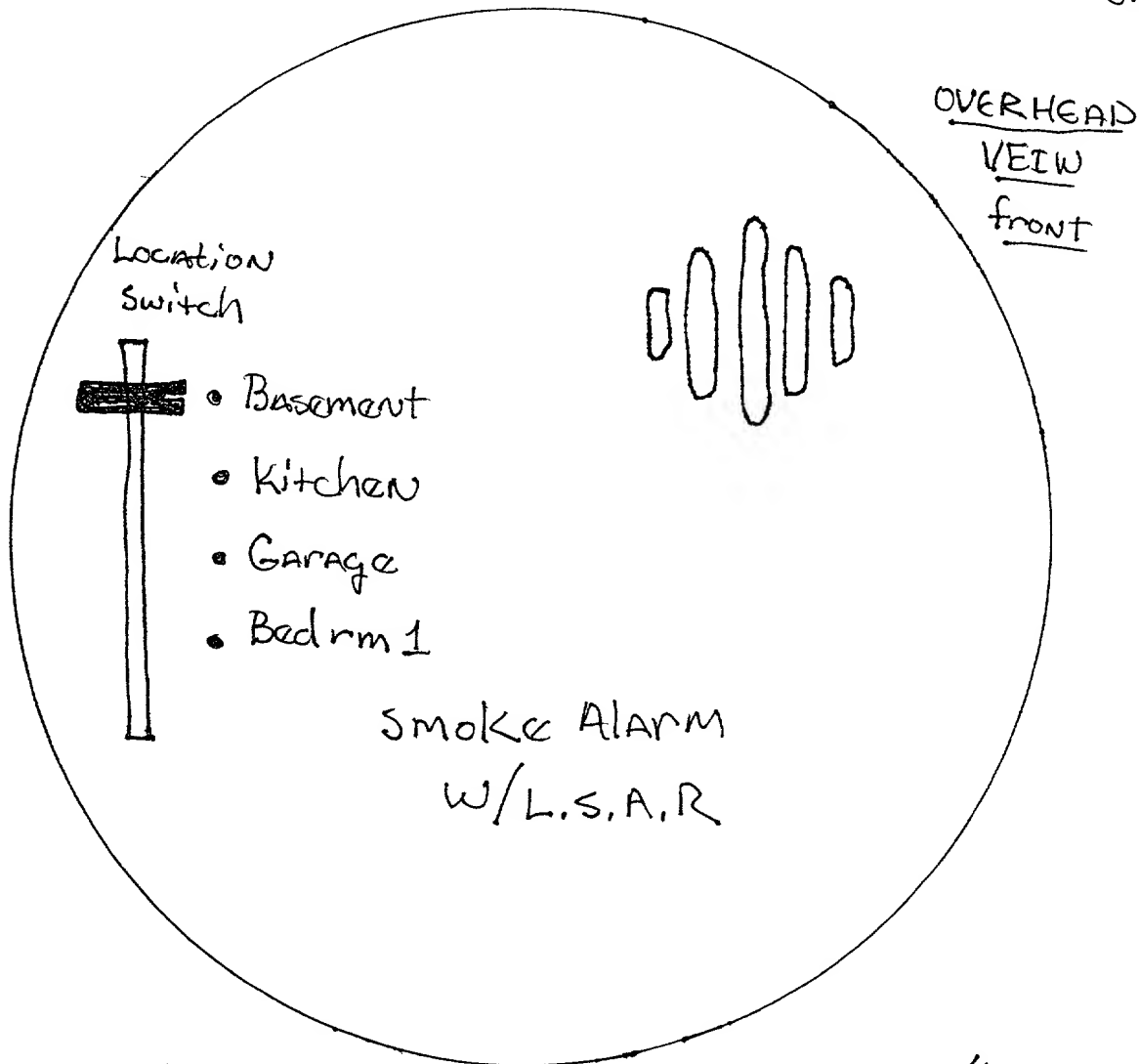
Also by relaying data throughout the system  
an alarm, which would not be heard because  
of its location i.e. "Garage or Basement"  
will now be received at each location.

With the use of a "master monitor" for  
inside a bedroom location, the volume level  
of an alarm can be raised for the hearing  
impaired, or a strobe light can be added.

This system can easily be expanded, or  
rearranged as needed by the consumer  
or totally relocated at any time.

## Location Specific Alarm Relay

"L.S.A.R" is an Information device  
it does NOT detect smoke or carbon monoxide.  
When completed it should look like a  
standard "Smoke Detector" except for  
the added "Location switch" on the front.



And "Communication Address port" on  
back, shown on NEXT Page.

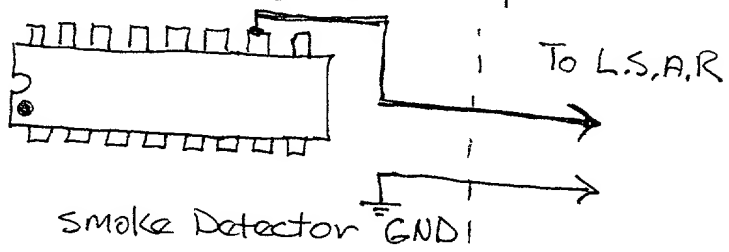


The (L.S.A.R) Prototype system is connected to the smoke detector in only two places.

One is the 9volt Battery Ground to be used as a voltage reference and the other place is the #10 pin of the IC chip

(M) I87-35-05

QXF9419



This Pin goes high +5V with the detection of smoke and cycles the Alarm.

OVERHEAD  
VIEW  
BACK

Each unit in System must be set to same Address.

1-2-3-4-5-6-7-8-9-10-11-12  
Communication Address Port

## Operation (L.S.A.R)

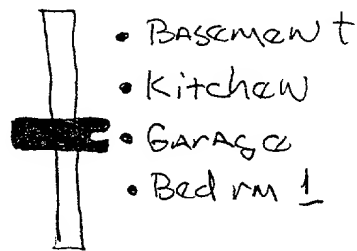
The L.S.A.R is self operational, After setting the communication address code 8-bits, on the back of each unit in the system to match.

You pick your location to install

Example "Garage" set location switch on front of detector to

Garage, Installation complete.

Repeat the setting of the Location Switch for each unit in system.



## Conclustion, Ramifications, AND scope.

The advantages over existing systems are many for example, in the "Top of the line" hard wired home security systems, which cost a great deal more, A fire in the basement would cause all alarms to go off, and maybe a voice message at the keypad by the front door would give a general location, say ZONE Z, which is actually not a location but a type of alarm lets say smoke, now you do that one of the TEN smoke Detectors has detected a fire which way would you run.

In a fire, the first few minutes are the most important. A high frequency Alarm Alternating with a voice message, has the best chance of waking you sooner.

And when you do wake, the system provides all the information you need at each station

This system is the Evolution of the (Smoke/Carbonyl Monoxide/RADON) Detectors and will greatly enhance their ~~ability~~ to SAVE lives AND property.

Thus the scope of the invention should be determined by the appended claims and their legal equivalents, rather than the examples given.

## Independent Claim

- 1) Each unit has a location switch which can be set by user to output and relay specific information.

## Dependent Claim

- 1) Future Systems with multiple Alert Sensors will Insert Proper "Alert Type" into Message Playback.

## Independent Claim

- 2) Each unit monitors all other units within System.

## Dependent Claim

- 1) "Black Box" - Feature, "Initial Alarm" received is placed in memory, used to verify location fire began.

## Independent Claim

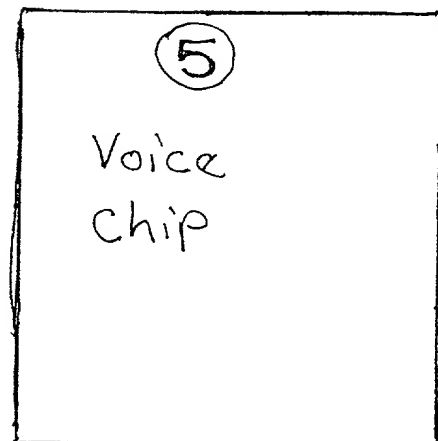
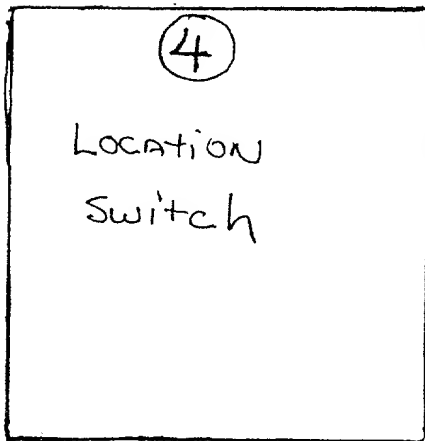
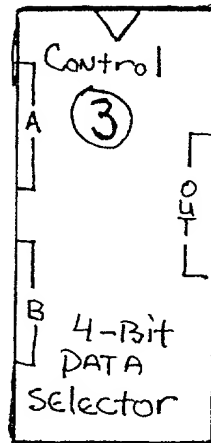
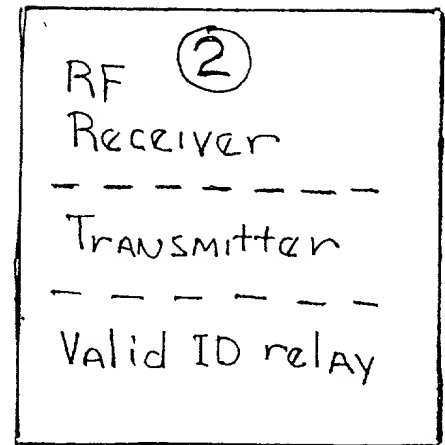
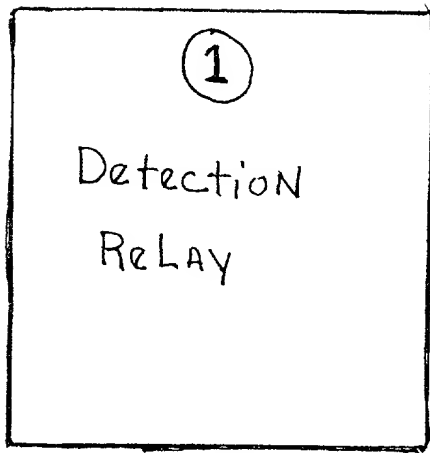
- 3) Each unit has the ability to relay its own detection of an Alarm or the detection of another units Alarm.

## Dependent Claim

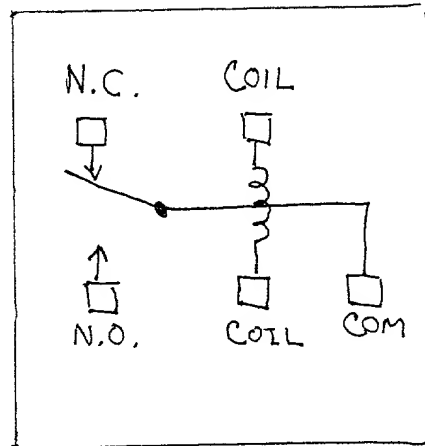
- 1) "Master Monitor" - outputs Type and location message plus, self-Recorded escape plan for each location.

# Location Specific Alarm Relay (L.S.A.R)

Abstract: Information Relay and  
voice/high frequency Alert device with  
selectable Location specific output.

Diagram - 1: Major Components. (L.S.A.R)

## Major Components (L.S.A.R)

① - Detection Relay

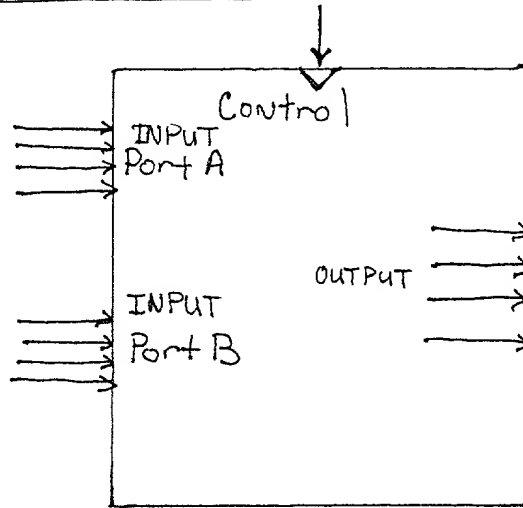
5VDC PC RELAY SPDT. Radio Shack CAT # 275-243  
USED TO CONTROL 12VDC SUPPLY FOR  
RF RECEIVER/TRANSMITTER.

② - RF Receiver/Transmitter

A0	Relay 1
A1	Relay 2
A2	DATA 1
A3	DATA 2
A4	DATA 3
A5	DATA 4
A6	GND
A7	+12V

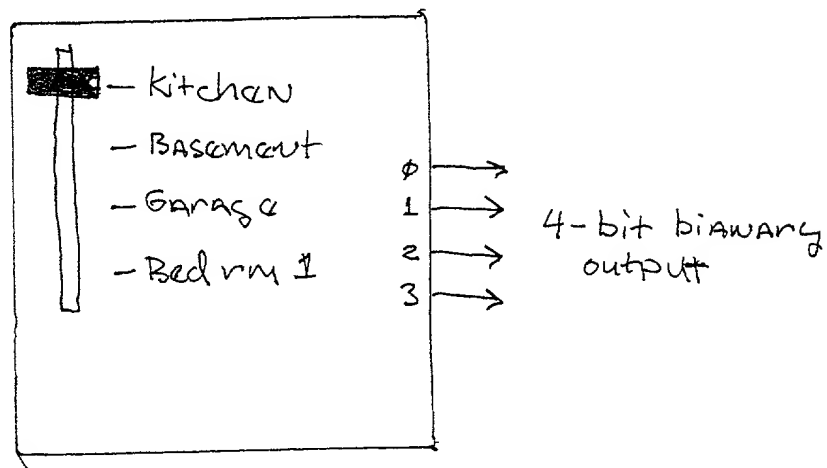
Ming / microsystems - 12-Bit Decoder Motherboard, RE-01  
- RF RECEIVER BOARD, RE-99  
- 12-Bit ENCODER Motherboard, TX-01  
- RF Transmitter Board, TX-99

## Major Components (L.S.A.R)

③ - 4 Bit DATA Selector

0 Volts on control line Input Port B connected to output.

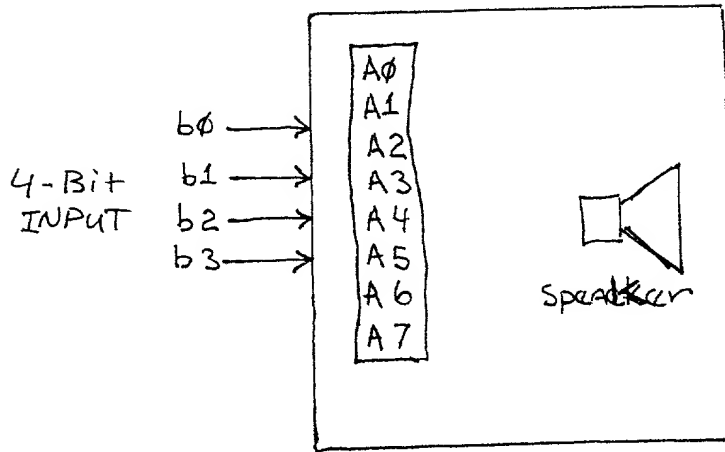
5 Volts on control line Input Port A connected to output.

④ - Location Switch

Positional switch outputs binary location code.

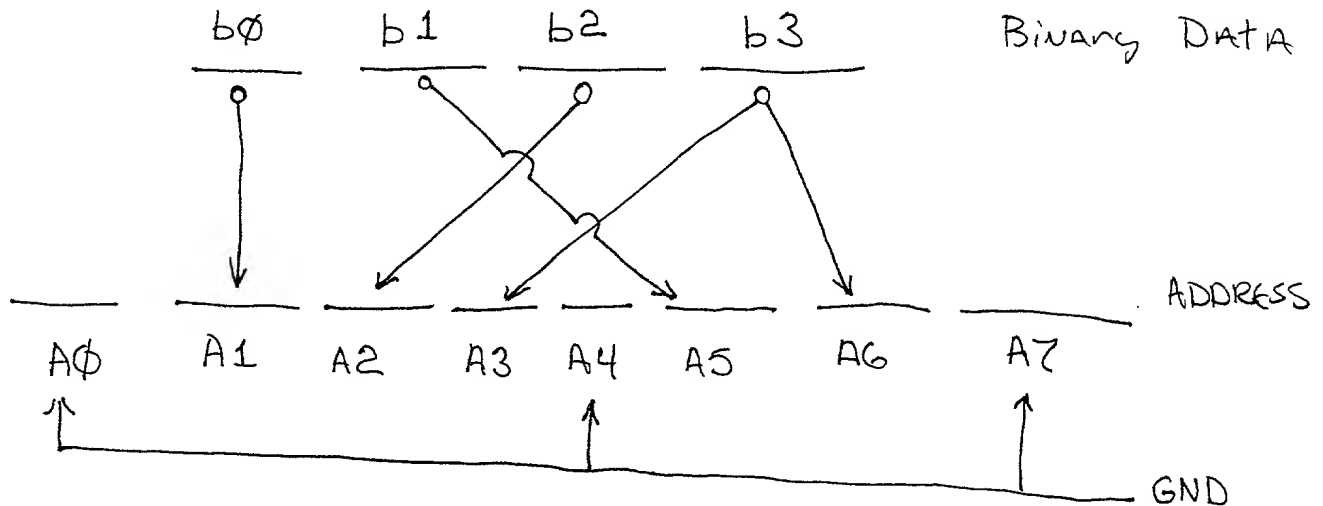


## Major Components (L.S.A.R)

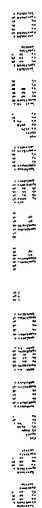
⑤ - Voice Chip (chipConder)

ISD - Information Storage Devices 1200/1400 Series

4-Bit Input Hand wired into 8-Bit Address  
As shown below.



Sending	Encoding
$\phi_{10} \rightarrow$	$\phi_h \rightarrow$ ADDRESS MEMORY LOCATION - 1
$3_{10} \rightarrow$	$32_h \rightarrow$ " " " - 2
$14_{10} \rightarrow$	$64_h \rightarrow$ " " " - 3

[illegible]

DATA PATH (L.S.A.R)

Two modes of operation, mode 1: Detection  
Sensing device activation.

(smoke/monoxide detector) trips the  
Detection Relay (1). DATA From the  
Location Switch (4) is routed thru DATA  
selector (3) (PORT B) To Output.

0 volts ON DATA SELECTOR CONTROL, DATA  
Applied to Transmitter (2) AND Voice chip (5).

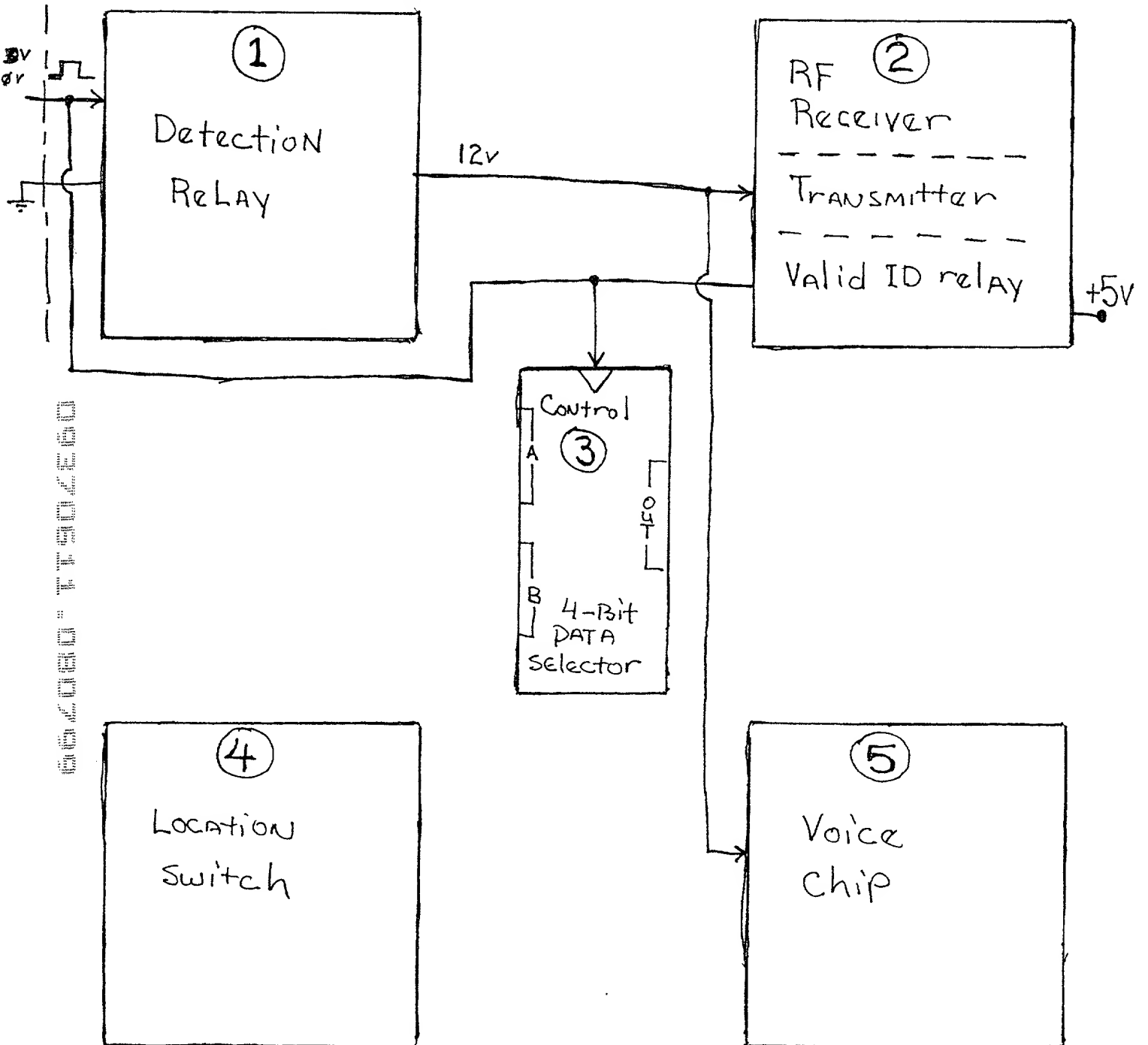
mode 2: Relay

RF Receiver (2) detects a COMMUNICATION  
Code match, 8-bit Address Code.

4-bits DATA latched at DATA Selector (3)  
Port A.

Valid ID Relay (2) closes which applies  
+ 5 volts to the DATA selector (3) control  
routing DATA thru Port A to transmitter (2)  
AND voice chip (5).

Valid ID Relay (2) also triggers  
Detection Relay (1) which powers the  
transmitter (2) and voice chip (5).

Diagram - 3 : Control lines (L.S.A.R)

## Control lines (L.S.A.R)

Two modes of operation, mode 1: Detection.

Transitional (Voltage/current) signal

From a monitored device causes the Detection Relay (1) to open which applies 12volts to the RF transmitter (2) AND The Voice chip (5)

### mode 2: Relay

RF - Receiver (2) validates a communication code match, valid ID Relay (2) opens which applies +5volts to trip the Detection Relay (1), +5volts is also applied to the Data Selector (3) control

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## Declaration for Utility or Design Patent Application

As a below-named inventor, I hereby declare that my residence, post office address, and citizenship are as stated below next to my name and that I believe that I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention, the specification of which is attached hereto and which has the following title.

" Location Specific Alarm Relay (L.S.A.R) "

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration. I acknowledge a duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, Section 1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Please send correspondence and make telephone calls to the First Inventor below

Signature Sole/First Inventor: Calvin Walker

Print Name. CALVIN WALKER Date: 8/7/99

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Telephone (314) 389-4790

Signature Joint/Second Inventor: \_\_\_\_\_

Print Name. \_\_\_\_\_ Date. \_\_\_\_\_

Legal Residence \* St. Louis MO Citizen of USA

Post Office Address: \_\_\_\_\_

Telephone \_\_\_\_\_

\* City and state, county and state or city, state and country, if foreign